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OVERCOMING NEGATIVE EMOTIONS

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Methods of controlling the emotional states of pilots in flight are discussed and their importance is emphasized in view of the great nervous and emotional strain associated with piloting modern aircraft and spacecraft. Acquiring the ability to control emotional experiences is an important part of pilot and cosmonaut training. Psychological preparation must be conducted throughout the training period, since many of the unfavorable emotions associated with flight develop into conditional reflexes and are hard to eradicate. Several methods for self-regulation of emotional states in flight conditions are recommended, including such elementary devices as listening to pleasant sounds and encouraging oneself with phrases like "I can", "I must", etc. Physical exercises, selected for their effect on the muscle groups most fatigued by prolonged static stress, have proved very effective. Each group of exercises is practiced before the flight and repeated every 3-4 hr during flight. Special muscle-relaxing exercises, consisting of a combination of stretching exercises, turns of the torso, exercises of various leg joints and breathing exercises, are used to remove emotional tension on complicated long flights. Pilots should be familiar with all varieties of breathing exercises, and the physiological and psychological effect of each on the organism (for instance, breathing deeply and exhaling slowly has a calming effect). Pilots should be trained to shift their thoughts at will to pleasant and successful flying experiences, thus overcoming unfavorable emotions arising during flight.

The process of operation of modern aircraft (jets and spacecraft) involves exceptionally high nervous and emotional strain. The role of the emotional factor in aviation is so great at present that a detailed analysis is not only justified but very much needed.

Any activity invariably creates some emotions, which in turn always

affect the activity in one way or another. Training, flying, production, community work cannot be void of emotion, which leaves its peculiar imprint on this type of activities.

Development of the ability to control their emotional experiences is of great importance in the training of pilots.

Experience has shown that attempts to conduct psychological conditioning immediately before a flight are not always successful. The stability of the developing negative emotions in the pilot during a flight or before it can be very considerable, since many of them acquire the character of conditioned reflexes, which have become deeply rooted throughout the years of flying. It is very difficult to eradicate these associations, and to replace them by associations which form the basis of positive emotions; it requires prolonged and systematic work on the part of the commanding officer, the physician and of the pilot during the entire training period, not just immediately before a flight.

The task of the physician and the commanding officer consists of equipping the pilot with the most effective deliberate ways of controlling his emotional states and to develop the ability of such self-regulation. Certain methods can be recommended in specific cases for practical application of self-regulation of emotional states connected with flying activities. Emotions always are reflected in definite outward expressions of the experienced states, such as: fear, joy, sadness. Voluntary, directed checking of these expressions, specific and characteristic of the emotional experiences, relieves the emotional strain.

The contrary also holds true, it is possible to control one's emotional states through specific motions, which vary as to speed, tempo, amplitude, sequence direction or muscular tensions.

PHYSICAL EXERCISES. Experiments carried out in applying physical exercises in the aircraft during prolonged flights proved them to be effective in controlling emotional reactions.

Those exercises were chosen which would have the effect on basic muscle groups most apt to be fatigued by prolonged static stress. Each complex is practiced before the flight until it is mastered, and then repeated in flight at intervals of 3-4 hours.

For complicated prolonged flights special exercises, ensuring relaxation of muscles, are used for removing emotional strain. The complex consists of exercises in stretching, turning the torso, bending and unbending of pelvic and hip, shin and foot, and knee joints, inclining the torso while turning it to the left and right, and breathing exercises.

VOLUNTARY CONTROL OF BREATHING. This is one of the most important of the effective methods permitting the control of one's emotional state. Special breathing exercises, varying in depth, intensity, frequency, rhythm

and duration show a positive effect on the nervous system and metabolic processes of the organism. Breathing is closely connected with the emotional state of a human being.

This is why it is most important for a pilot to be well versed in the multitude of the varied breathing exercises and to know their physiological and psychological effects on man. The relaxing deep inhaling and the slowed down exhaling is being used by many sportsmen and pilots in tense moments.

THE CONTROL OF EMOTIONAL REACTION UPON VARIOUS ANALYZERS. It is known that our feelings and perceptions are usually emotionally colored and are linked with pleasant or unpleasant experiences. Emotional effect of a stimulus can be either exciting or pacifying. Thus, for instance, the color red has an exciting effect upon man and animals, while green color is soothing.

Different sound stimuli greatly influence the emotional state.

Under flight conditions or during preparation for a flight, or during flight it is advisable to make use of this source for controlling one's emotions.

When necessary, the pilot should be able to select on time the appropriate objective for perception, he should be able to determine what to look at, and to what to listen to in order to relax or to stimulate and encourage himself.

EFFECT OF TALK ON THE EMOTIONAL STATE. It is possible to encourage, to cheer up, to sadden and to calm a human being by the proper word.

In difficult moments it is necessary to encourage oneself, to calm oneself down, to direct oneself, to convince oneself in order to gain confidence. To do this we talk to ourselves in our mind, saying: "I must", "It is necessary", "I can", "I shall succeed", "one must not weaken", etc.

PREMEDITATED CHANGING OF IDEAS AND THOUGHTS. In the struggle with unfavorable emotions the psychic process of consciously changing the content of ideas or direction of thoughts, is very effective. In order to get rid of involuntary thoughts and ideas one should consciously turn to other positive emotions and thoughts (relating to a successfully conducted airbattle, interception, etc.).

VOLUNTARY CHANGE OF DIRECTION AND CONCENTRATION OF ATTENTION. Timely switching of attention to occurrences causing positive reactions, helps to regulate emotional states.

BRACING THE FEELING OF CONFIDENCE IN ONE'S POWER AND POSSIBILITIES. The pilot's confidence in his own power depends to a considerable degree upon his professional knowledge, physical fitness and his skill as a flyer.

It is necessary for the commanding officer and physician to note any negative emotional states and select from the arsenal of above suggested methods those which could be most effectively applied in getting rid of these in accordance with individual characteristics, and replacing them with positive emotions.

In the process of flight training the positive emotional experiences and reactions of the flyer should be strengthened, and he should be permitted and helped to fully experience the emotion of joy in connection with successful actions in difficult situations. Pleasant memories of successfully surmounting great difficulties help reestablish emotional equilibrium in a similar difficult situation.

In reviewing flights a pilot should become accustomed to independently analyze his own actions. The habit of subjecting them to an analysis helps to overcome the impression of fatality in flight incidents, to understand that incidents can be avoided on condition of intelligent execution of flight program.

No less important is the conduct of the commanding officer and the doctor and their tactful attitude towards the pilot who is deeply remorseful of having committed a wrong action or unsuccessfully executed a flight assignment.

In order to develop in the flyers the ability to overcome negative emotional states, they should be trained in moral consciousness and, first of all, a sense of duty and responsibility to the group. The higher the moral qualities of the flyer, the easier and quicker will he become convinced of the necessity of continuing the struggle under conditions of great strain and unpleasant emotional experiences.